



VOLUME **6**
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Getting It* Done

With Centers of Excellence

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*Business Solutions & Workforce Training

Delivered Through Community
Colleges and Their Partners

Initiatives of Economic & Workforce
Development include:

- Advanced Transportation, Technology & Energy
- Applied Biological Technologies
- Performance Improvement
- Environment, Health, Safety and Homeland Security
- Health Care
- Multimedia & Entertainment
- Applied Competitive Technologies
- International Trade
- Small Business Programs
- Workplace Learning

Turning Up the Heat on Energy Efficiency Employers

California's persistent move towards energy efficiency has spurred a rising need for workers, especially in eight key occupations, according to a recently released environmental scan by the San Francisco Bay and Greater Silicon Valley Centers of Excellence. The combined Bay Region Centers conducted an extensive survey of energy efficiency employers in the 12-county Bay Area. The Energy Efficiency Occupations report analyzes responses from more than 700 firms, focusing on three industries: public or private utilities or agencies; building design and construction; and building or facility operations and maintenance.

The study identifies and profiles eight occupations that are vital to sustaining economic growth in the energy efficiency industry: project managers for construction or design work, building performance or retrofitting specialists, HVAC mechanics, technicians or installers, energy auditors or home energy raters, resource conservation or energy efficiency managers, building controls systems technicians, compliance analysts or energy regulations specialists, and building operators or building engineers.

Strong industry partnerships with Pacific Gas and Electric (PG&E), the United States Green Building Council (USGBC) - Northern California Chapter, the California Building Performance Contractors Association (CBPCA) and several other industry associations were key to the success of the workforce study.

Industry partner Charles Segerstrom, manager of PG&E's Energy Centers commented, "Increasing focus on climate change mitigation, local jobs, energy costs, legislative requirements and consumer demand for sustainability have all led to a major push for a greener economy. The latest COE report is a major step to uncover information about the energy efficiency sector and related occupations that will support development of 'green collar' workforce education and training programs."

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HERE IN CALIFORNIA."**



Understanding the Green Economy: A Community College Perspective

Turning Up the Heat

Continued from front.

According to the report, the two largest growth occupations over the next 12 months are building performance or retrofitting specialists with an estimated 950 new jobs (an increase of 21%) and energy auditors or home energy raters with an estimated 590 new jobs (an increase of 20%).

Over the next three year period, the two largest growth occupations are project managers for construction or design work with an estimated 2,850 new jobs (an increase of 27%) and building performance or retrofitting specialists with an estimated 2,690 new jobs (an increase of 58%).

"These numbers show a real opportunity to train individuals into high growth occupations in the Bay Area," said Executive Director Dan Geiger, U.S. Green Building council, Northern California Chapter. "Knowing what occupations and skills are most important is a key factor in retraining displaced workers and getting them back to work, which ultimately will help re-energize our economy here in California."

The Centers of Excellence are continuing to research energy efficiency occupations in California and will release several more regional reports over the coming months. In addition, the COE will conduct a statewide follow-on study in partnership with Lawrence Berkeley National Lab (LBNL) that will focus in greater detail on the characteristics of the California energy efficiency sector and the workforce needs and requirements to educate, train, and mobilize a highly skilled workforce.

Co-author and San Francisco Bay COE Director John Carrese said, "One of our key goals in releasing these types of reports is to make sure that community colleges understand the market needs so that they can adapt and design curriculum to prepare students for high growth occupations."

To access the Bay Region environmental scan and future reports on energy efficiency, go to www.coecc.net/energy. Questions related to the study should be directed to John Carrese at jcarrese@ccsf.edu.

In 2008, the Centers of Excellence (COE) initiative launched a study of the green economy and green jobs in the state. There have been numerous studies published on the subject of defining the green economy and green jobs. However, given the emerging character of this field of study and the absence of one accepted definition of the green economy, the COE decided to focus the first phase of the study on identifying green and clean industries.

Six major sectors/areas of the green economy were identified. Each of the sectors represents a value chain of activities (R&D, Manufacturing, Distribution, Installation, Maintenance & Repair), which are clustered around a similar "green" technology and/or purpose.

This approach allowed us to cover

each aspect of a "green" technology value chain, and thus look at a full picture of potential employment opportunities in a cluster of green industries.

After establishing the industry approach, the COE research team looked at completely new (emerging) occupations and occupations in transition, requiring new knowledge, skills and abilities (KSA). The Centers of Excellence are working with the California Community College Chancellor's Office to identify programs and program codes (TOPs) that contribute to the training and education of emerging green occupations. The efforts resulted in a comprehensive crosswalk between green clusters, industries, and occupations, with a tie-in to

Coming soon!

- Inland Empire, Central Valley, and San Francisco Bay Centers research Wind Energy in California.
- Energy Efficiency statewide overview and additional regional scans.
- Water and Wastewater Management in the Bay Region

community college programs. The complete report is available now at www.coecc.net/green.

Related green studies from the COE include energy efficiency (www.coecc.net/energy), solar (www.coecc.net/solar), water and green building (www.coecc.net/products_industry_scans).

SIX MAJOR SECTORS OF THE GREEN ECONOMY

- **Renewable Energy: Energy Generation, System Installation & Storage**
- **Green Building and Energy Efficiency**
- **Biofuels Production and Farming**
- **Transportation and Alternative Fuels**
- **Water, Wastewater and Waste Management**
- **Environmental Compliance & Sustainability**



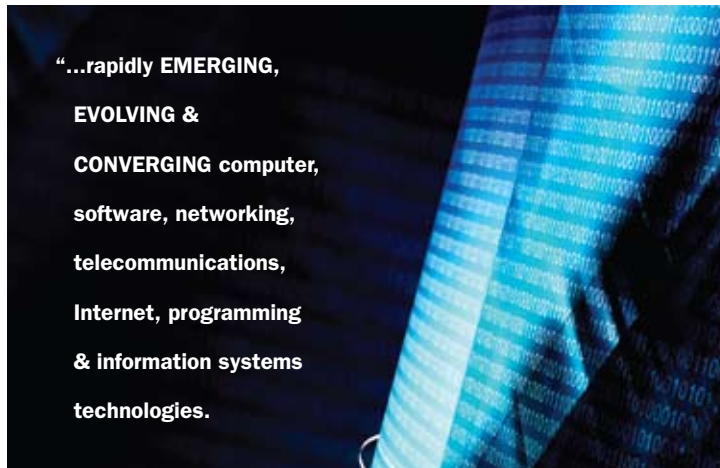
What is ICT?

Studying “Converging” Occupations of Information & Communications Technology

In 2009, the Centers of Excellence, in partnership with the Mid-Pacific ICT Center, began an extensive study of Information & Communications Technologies (ICT) in California. As Orange County COE Director Dr. Osiel Madrigal found, the first hurdle in this project was to understand not just what ICT is but also where it can be found.

“When one thinks of ICT, traditional ICT producing industries come to mind such as wired and wireless telecommunication carriers (e.g., Verizon, AT&T, etc.), cable operators (e.g., Comcast, Time Warner Cable, etc.), and computer systems design services (e.g., Cisco, Avaya, etc.). It’s no secret that these industries do have a healthy ICT workforce. What is a surprise is the literature asserting that approximately 80% of ICT jobs are outside traditional ICT industries – in healthcare, business, engineering, biotech, and financial services industries. This presents a challenge because we must account for several more industries in order for our study to be a valid representation of the current California ICT workforce.”

Information and Communications Technologies (ICT) is an umbrella term, widely used outside the U.S., to encom-



pass all rapidly emerging, evolving and converging computer, software, networking, telecommunications, Internet, programming and information systems technologies. These are jobs performed by “IT” staff in every organization. Increasingly, these jobs have become more complex and more specialized, requiring a commitment to continuing education on the part of employers and workers.

Historically, many of these fields developed separately, in different academic departments, in different companies and R&D groups, and in separate departments within organizations.

With rapid improvements in computer processing power, networking technology advances, programming interface improvements, widespread adoption of internet protocols, integration into the strategic operations of organizations, and improved workforce and user competencies, however, these fields are rapidly merging.

In the U.S., these trends are often referred to as “convergence.” In much of the rest of the world, all of these technologies are grouped together under a single descriptive term, Information and Communications Technologies (ICT).

Currently, the term “ICT” is rarely used or recognized in the U.S. However, both the National ICT Center and the Mid-Pacific ICT Center have adopted the term and are championing its use as a global standard.

Due to the complex nature of the industry, this project will produce several reports -- an overview scan of the industry and related trends, and multiple regional scans of ICT’s importance to the California economy, with an emphasis on critical demand job functions.

As San Diego-Imperial COE Director Philip Jordan explains, “The really tricky part about studying ICT occupations is that the industry hasn’t agreed on standard job titles. In order to ask the right questions, we need to focus on job functions and industry-recognized certifications so that we can come up with accurate information. That is why we are doing this in two phases and why our partnership with the Mid-Pacific ICT Center has been so valuable.”

The ICT overview scan will be available this Summer, with multiple regional scans planned for release in the fall of 2009. For more information, contact Philip Jordan at Philip.jordan@gcccd.edu, or Dr. Osiel (Ozzie) Madrigal at madrigal_osiel@rscdd.org.

National Bellwether Award Finalist

In 2009, the Centers of Excellence were selected by the Community College Futures Assembly (CCFA) as one of ten community college finalists from across the country for the National Bellwether Award in Workforce Development.

The CCFA, now in its 15th year, convenes annually as an independent national policy forum for key opinion leaders to work as a “think tank” in identifying critical issues facing the future of community colleges. Each year, the Assembly recognizes innovative and productive programs in the nation’s two-year college community, honoring ten finalists for each of three categories: Instructional Programs & Services, Planning, Governance & Finance, and Workforce Development.

Instructional Programs & Services

Programs or activities that foster or support teaching and learning in the community college.

Planning, Governance & Finance

Programs or activities that improve efficiency and effectiveness in the community college.

Workforce Development

Public and/or private strategic alliances and partnerships that promote community and economic development.

Presented in Orlando, Florida, each finalist gave a presentation and submitted supporting materials to a panel of judges in the days preceding the presentations and subsequent award ceremony.

The COE presentation demonstrated how embedded technology is used to enhance the environmental scanning process, detailing the use of GIS software and private and public data sources to provide colleges with real-time information for industry outreach, competency-based curriculum design, and partnership development.

According to Elaine Gaertner, State-wide Director of the Centers of Excellence, “The Bellwether Award is a well-known and coveted award among community colleges. The COE team is doing



ground breaking work that is unique to California. The Centers of Excellence are well deserving of this recognition of their work.”

The work of the Centers of Excellence will be featured in an article in the Community College Journal of Research and Practice this fall. The Centers of Excellence are honored and proud to be recognized for this work!

Customized Products for Decision Making

With the significant budget challenges facing California's community colleges, customized reports from the COE can assist colleges with program decision making, applications for external funding, and strengthen relationships with industry and workforce organizations.

Here are a few examples of the reports that the Centers of Excellence can create:

GIS ANALYSIS – Regional maps showing the clustering of businesses in a specified area surrounding a community college or other specified area. Or focus on trade or study areas with maps showing industry and businesses by region, county, zip code, or another specified area. Trend analysis maps display the growth trends of a specified industry from 1998 forward. *Example: Among*

other data analyses, Cabrillo College utilized COE maps showing clustering and distribution of hospitals and other health care providers in Bay Area counties when considering a Respiratory Therapist program.

EMPLOYER DATABASES – Custom lists of California companies by industry and location, including sales volume, number of employees, address and phone number. *Example: Butte-Glenn Community College District requested business listings to inform contract education and marketing efforts.*

DEMOGRAPHICS – Integrated community profiles including Census data, lifestyle, and life stage into reports and studies. *Example: The Inland Empire and Coachella Valley Demographics Report was used in*

meeting with hospital executives in College of the Desert's service area. This customized information, coupled with previous environmental scan reports, provided the necessary projections to explore opportunities within the healthcare field.

STRATEGIC PLANNING – Industry and occupational profiles incorporating employment projections, earnings, demographics, and economic impact. *Example: The Los Angeles County COE provided an occupational profile report on web and database developers to West Los Angeles Community College for expanding the scope of the college's current computer programs.*

For more information about these services, contact the Center nearest you.

Who are the Centers of Excellence?

The ten regionally-based Centers of Excellence conduct industry-validated environmental scanning on high growth, emerging, and economically-critical industries and their related workforce and occupational needs.

Our Mission

The Centers of Excellence, in partnership with business and industry, deliver regional workforce research customized for community college decision making and resource development.

Our Vision

We aspire to be the premier source of regional economic and workforce information and insight for community colleges.

Visit the Centers of Excellence Online

The COE website is a knowledge portal for economic and workforce development professionals, faculty, and administrators to use in making informed decisions and creating new avenues of resource development.

The website showcases the workforce information that colleges can access or request of the Centers, the industry studies already available, related publications specific to high growth industries, and more!

Our regional workforce research gives community colleges a competitive advantage.

RESOURCES FOR:

- Creating new and relevant programs and curriculum
- Pursuing grants that lead to funding
- Understanding workforce skill gaps from an industry perspective
- Connecting to business and industry partners

Visit our website at www.coecc.net and learn more about how we can help you!



Contact Us

Meet our dynamic research team!

For more information on COE products and services, contact your regional COE Director.

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